

**A REVIEW OF THE GENUS CHELOCHIRUS  
WITH THE DESCRIPTIONS OF TWO NEW SPECIES  
(Hemiptera: Blissinae)<sup>1,2</sup>**

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*Abstract:* This paper reviews the genus *Chelochirus*; also included is a report on 4 species (including 2 new species), a key to species and illustrations.

The genus *Chelochirus* contains some of the largest and most spectacular insects found in the subfamily Blissinae. At present they are known only from Malaysia and Indonesia. Unfortunately all species are rare in collections and only a handful of specimens have been available to us for study.

An understanding of the position of *Chelochirus* is important in interpretation of the evolutionary history of the subfamily. The members of the genus appear to be related on the one hand to such genera as *Spalacocoris* and *Pirkimerus* and on the other to *Riggiella*, *Bochrus* and *Patritius*.

Genus *Chelochirus* Spinola

*Chelochirus* Spn., *In* Guerin, Mag. Zool. ser. 10, 1: 1-4.—Stål, 1874, Enum. Hem. 4: 129-30.—Lethierry & Severin, 1894, Gen. Cat. Hem. 2: 162.—Miller, 1956, Biol. Heter. pp. 24, 61.

*Chelocheirus* (*sic*) Spinola, 1850, Mem. Soc. Ital. Modena 25: 84.

Body usually greatly flattened dorso-ventrally and broadened; head relatively very small, acuminate, non-declivent, eyes sessile, set slightly away from anterolateral pronotal margins; pronotum usually ovoid, lateral margins strongly curved and markedly narrowing in a convex arc to a narrow anterior margin, transverse pronotal impression obsolete but frequently with a broad median transverse area across disc coarsely punctate in marked contrast to smooth glabrous anterior and posterior areas; scutellum with a prominent, smooth median carina, widening near base, laterally dull and punctate in strong contrast to shining carina; hemelytra dull with texture of membrane and corium not stripingly differentiated, apical corial margin straight, a smooth, shining, glabrous longitudinal stripe running along area of radial vein near lateral margin of corium; abdomen broad, little tapered

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posteriorly, posterior margin strongly truncate; fore femur incrassate, usually enormously so, armed below with several large, hooked spines, fore tibia irregularly enlarged, somewhat subflattened, armed on inner face with a series of 4 to 5 sharp spines, apices of tibiae usually bearing 2 or 3 large, hooked terminal claw-like spines, sometimes with a row of small spines along shaft; mid and hind femora relatively slender and unarmed below; antenna rather stout, segment II much longer than III, both segments clavate near apices, segment IV narrowly fusiform; fore coxa closed, mesosternum bearing a deep median groove; metathoracic scent gland orifice auricular or hooked, always somewhat excavated on posterior face; labium elongate, always reaching posteriorly at least to mesocoxa; dorsal surface nearly glabrous with a few hairs present along lateral margins; head, pronotum and legs strongly shining; undersurface with shining prosternum and mesosternum but metasternum dull and wrinkled.

The systematic relationships of *Chelochirus* are very interesting and important. There seems no doubt that this genus is most closely related to *Spalacocoris* and *Pirkimerus*. This is evidenced in a number of ways, some of which might be interpreted as parallelism, but others certainly indicating true phylogenetic relationship. Of these characters the most important are those dealing with the genital structures. The claspers of all three of these genera are very different from any others found in the entire Blissinae in that they are not hook-shaped, but rather reduced to rounded or block-like knobs and show no indication of the long scimitar-shaped shaft with a protruding knob near the proximal end typical of most Blissinae (figs 3-10). The sperm reservoir of the aedeagus of these genera also shows close relationship. The reservoir of *Chelochirus* is perhaps the least reduced and possesses rather prominent lateral wings, whereas in the other genera the wings are fused into a single, central plate. The females of all these genera have the ovipositor and attendant sclerites very strongly reduced, so much so that the lacinate condition of the typical lygaeid ovipositor is not immediately evident. Here again the most extreme condition is found in *Spalacocoris* but there is very evident and strong reduction in the length of the component parts of the ovipositor in the other two genera as well.

In addition to the very fundamental characters found in the genital structures, there are certain external features which relate *Chelochirus* to *Spalacocoris* and *Pirkimerus*, particularly to the former. The head shape of *Spalacocoris* and *Chelochirus* is very similar, both having extremely small heads for blissines. These heads are somewhat elongated, the eyes completely sessile, both with relatively large ocelli and the dorsal surface of both is very smooth, shining and glabrous. In all three genera the fore legs tend to become swollen, incrassate and armed below with large heavy spines. The fore tibiae are also enlarged and bear various arrangements of heavy armature. This is less evident in *Pirkimerus* because of the small size of the members of the genus. In *Spalacocoris* and *Chelochirus* (with the exception of *C. pirkimeroides*) the fore femora are really enormously enlarged, nearly as large in some cases as the pronotum and give a very distinctive and fossorial aspect to the insects. The antennal shape is also similar in the three genera. In all cases the antennae are short, thick and heavy, and segments II and III become noticeably clavate distad. It seems evident that these three genera form a very distinctive unit within the Blissinae and one which we believe will ultimately come to be recognized to have tribal status. We do not formally propose such a change here, pending detailed study of the other generic complexes within the subfamily.

The relationship of *Chelochirus* to such genera as *Riggiella* and *Bochrus* is also most in-

teresting. At first glance most species of *Chelochirus* might seem to be more closely related to these two latter genera than to either *Spalacocoris* or to *Pirkimerus*. This resemblance is caused by the flat, rather ovoid body shape found in the three genera, and is particularly well manifested in the shape of the pronotum which is very broad and flat with the lateral margin curving in a semi-circular arc toward the anterior margin. This pronotal shape is quite distinct from that found in *Spalacocoris* and *Pirkimerus* where the pronotum tends to be rather elongate, almost parallel-sided, and subcylindrical. However the peculiar species *C. pirkimeroides* has a more linear conventional pronotal shape and shows a much closer habitual resemblance to *Pirkimerus* than do the flattened species. Furthermore, the corium of *Riggiella*, *Bochrus* and *Chelochirus* is dull for the most part with a narrow, longitudinal, shining stripe along the radial area of the wing, or in other words, a short distance within the lateral margin. This shining corial area is absent in some *Pirkimerus*. In *Spalacocoris* it is represented by an enlarged area which causes the entire outer 1/3 to 1/4 of the corium to be shining, in contrast to the dull inner portion.

These resemblances of *Chelochirus* to *Riggiella* and *Bochrus* are striking and may represent a degree of relationship. However, the differences are even more striking if carefully considered. For example, the claspers of the three are quite different. Those of *Chelochirus* are short and knob-like, whereas those of *Riggiella* and *Bochrus* have a definite scimitar-shaped hook-like projection. Furthermore, the female genitalia are not particularly reduced in the two latter genera. The fore leg of *Riggiella*, while incrassate, does not have a really fossorial appearance. The tibiae are terete and not at all modified for digging. In *Bochrus* the fore leg is slender and it is the hind femur, at least in males, which is strongly incrassate. Therefore, one concludes that the external resemblance of *Chelochirus* to *Riggiella* and *Bochrus* does not indicate close relationship, but rather is the result of some type of habitat relationship which has brought about a convergence in the general shape of the pronotum and in the shining stripe on the corium. Without more knowledge of the biology of these insects, speculation as to what this convergence involves seems futile, but one suspects that these insects are living close to or in the sheath of some large graminaceous plant such as bamboo.

*Chelochirus* was first described by Spinola in Aradidae but it is difficult to understand why he so placed the genus other than because of its large size and rather flattened body. At the time of the description of *Chelochirus* it was monotypic, based upon the species *atrox* which was originally described from Java. Subsequently *Ischnodemus talpa* Walker, 1871, was transferred by Distant (1901) to *Chelochirus*. We believe that *Macropes fasciatus* Distant is a synonym of *C. atrox* and two new species to be present from Java and Borneo. The genus is restricted in distribution to Malaya and to the larger islands of Indonesia.

#### KEY TO SPECIES OF CHELOCHIRUS

1. Labium reaching to and usually exceeding metacoxa and extending onto base of abdomen; corium dark chocolate-brown, nearly unicolorous with pronotum and membrane.....**atrox**  
     Labium not extending caudad to metacoxa; corium either brick-red or variegated yellow and black, strongly contrasting with the dark pronotum and membrane ..... 2
2. Body shape elongate and slender; fore femur only moderately incrassate, the ventral surface possessing a series of spines of nearly equal size; labium not attaining

- mesocoxa..... **pirkimeroides\***  
 Body very broad and subflattened; fore femur enormously enlarged, a very large spur-like spine present ventrally on distal 1/3; labium at least attaining mesocoxa ... 3
3. Labium reaching mesocoxa, corium uniformly brick red; fore femur lacking a serrated flange distally on inner surface; legs black..... **talpus**  
 Labium exceeding mesocoxa, nearly attaining metacoxa; corium variegated with yellow and black stripes; fore femur bearing an expanded serrate flange distad on inner surface; legs pale yellow..... **confertus\***

### *Chelochirus atrox* Spinola

*Chelochirus atrox* Spn., 1839, *In* Guerin, Mag. Zool. ser. 10, 1: 4-6, pl. 27.—Stål, 1874, Enum. Hem. 4: 130.—Lethierry & Severin, 1894, Gen. Cat. Hem. 2: 162.

*Macropes fasciatus* Distant, 1901, Ann. Mag. Nat. Hist. ser. 7, 8: 468. **New Synonymy.**

General coloration nearly uniformly dark chocolate-brown; head, pronotum, legs and median carina of scutellum shining and glabrous; clavus, corium and membrane dull, membrane with a yellow basal vitta and an irregularly oval, yellowish spot near apical margin.

Head typical for genus, tylus extending midway to apex of antennal segment I, eyes sessile, set very slightly away from antero-lateral pronotal angles, length head 1.15 mm, width head 1.05 mm, interocular distance .60 mm; pronotum relatively slender, transverse impression broad, shallow, very deeply and coarsely punctate, anterior lobe smooth, shining, glabrous, posterior margin shallowly concave, length pronotum 1.60 mm, width pronotum 2.35 mm; scutellum dull, moderately punctate laterad with a low, shining glabrous median carina extending laterad near base to form a "T"-shaped glabrous area; corium with lateral margins straight, membrane extending onto basal portion of last abdominal tergum, distance apex clavus-apex corium 1.75 mm, distance apex corium—apex abdomen 2.50 mm; fore femur strongly incrassate, a very large spine on ventral surface near apex, 2-3 smaller spines proximad, inner ventral surface lacking a strongly expanded serrate ridge distad; labium very elongate, extending well beyond posterior margin of metacoxa, nearly midway onto 1st visible abdominal sternum, length labial segments I .75 mm, II 1.15 mm, III 1.25 mm, IV .80 mm; metathoracic scent gland orifice slender, lobate, lacking a deep posterior concavity; length antennal segments I .35 mm, II .90 mm, III .55 m, IV 1.15 mm; total length 8.85 mm; spermatheca smaller than *C. talpus* and *C. confertus* with a rounded bulb and a narrow and short stem (fig 21). (Measurements taken from Distant's holotype of *Macropes fasciatus*.)

There will remain some doubt as to the specific identity of Spinola's type species *atrox* until the type specimen from Java, if in existence, can be studied. We believe that we have correctly associated this species with Spinola's description which is quite extensive and includes a colored plate and additional figures. *Atrox*, as considered here, can readily be distinguished by the characters given in the specific key. It is the only species with the corium and membrane dark and nearly unicolorous with the pronotum. Spinola specifically mentions the labium extending onto the base of the abdominal venter. This is much longer than the labium found in the other species known to us. Spinola, however,

\* Asterisk indicates name is newly proposed in this work.

mentions the second segment as being shorter than segment one, which is certainly not so and could not be so in his specimen since he further states that the second segment reaches to the posterior margin of the mesosternum, which manifestly would be an impossibility if the second segment were shorter than segment one. Our material runs slightly smaller than Spinola's type which is stated to be seven lines long (14.81 mm), as our material ranges from approximately 9 to 12 mm. The specimens available for study are from Malaya rather than from Java and there is, of course, a question as to whether we are dealing with a close, although distinct, species or perhaps a subspecific entity. Distant's *Macropes fasciatus* is a definite synonym.

**MATERIAL EXAMINED:** Holotype ♀ (*Macropes fasciatus*), Perak, Malaya, plus 2 additional ♀♀, same locality. BORNEO: 3, Sarawak, Mt Penrissen, 3000 m (Mt Poi Epd.). SABAH (N. Borneo): Tenompok, 15. II. 1959, T. C. Maa. MALAYA: Sameran Hlds., Bukit Palas, 1620 m; Pahang, F. M. S. Fraser's Hill, 1260 m, Dr E. Mjoberg, N. C. E. Miller; Perak, 10. XII. 1901, A. Grubauer. In British Museum (Nat. Hist.), Stockholm Museum, Bishop Museum, G. G. E. Scudder and J. A. Slater collections.

The two specimens from Malaya, Perak, in the Stockholm Museum were labeled as a new species of *Chelochirus* by Bergroth and consequently have "type" and "paratype" labels attached to them. We have been unable to find any descriptions written by Bergroth of members of this genus and believe that this represents a manuscript name.

***Chelochirus talpus* (Walker) Fig. 1.**

*Ischnodemus talpa* Walk., 1872, Cat. Heter. B. M. 5: 133.

*Chelochirus talpa*: Distant, 1901, Ann. Mag. Nat. Hist. ser. 7, 8: 466.

General coloration dark chocolate-brown to black; corium, clavus and all but extreme base of scutellum uniformly bright brick-red; membrane dark with a lunate basal and median ovoid yellowish or white spot similar to that of *atrox*, sometimes caudal pale area covering apical 1/4 of membrane; below black to dark reddish brown; legs and antenna uniformly black or very dark brown, the tarsi paler; head, pronotum, median scutellar carina and appendages strongly shining and contrasting with dull surface texture of hemelytra.

Eyes set slightly away from antero-lateral pronotal angles, vertex convex between eyes, length head 1.35 mm, width head 1.25 mm, interocular space .70 mm; pronotum nearly flat, very broad with lateral margins strongly and evenly curving in an arc to anterior margin, transverse impression broad, shallow, and deeply and coarsely punctate, length pronotum 2.05 mm, width 3.10 mm; scutellum with a well developed median carina, broadening at base, length scutellum 1.35 mm; hemelytra with lateral corial margins nearly straight but evenly narrowing caudad to leave abdominal connexivum exposed caudad of apex of clavus, membrane almost attaining apex of abdomen, distance apex clavus—apex corium 2.00 mm, distance apex corium—apex abdomen 3.30 mm; metathoracic scent gland orifice with a conspicuous posteriorly directed "hook"; labium attaining but not exceeding mesocoxa, segment II remote from posterior margin of prosternum, length labial segments I 1.00 mm, II 1.00 mm, III 1.00 mm, IV .75 mm; fore femor greatly incrassate and spined much as in *atrox*, lacking a comb-like expansion below distally on inner face; antenna with segment II nearly 2× length of III, length antennal segments I .45 mm, II 1.10 mm, III .60 mm, IV 1.25 mm; total length 10.90 mm; claspers simple, block-like, somewhat variable,

usually with a small rounded subapical lobe (figs 3-5); sperm reservoir usually with a wide stem and broad wings (fig 17), wings sometimes elongated, vesica with anterior end somewhat pointed, ejaculatory duct lying free of vesica (fig 19); spermatheca large with a round bulb and a wide stem (fig 22).

This is the most complex species present within the genus. We have decided to place all of the available specimens in a single species *talpus* for the present, although the specimens before us show considerable variation in important characters. It seems likely that we are either dealing with a group of very closely related species, or there is some complicated population or subspecies situation existing that is not possible to really understand from the very few specimens before us. The metathoracic scent gland orifice differs in every individual we have examined. All specimens show a rather similar pattern of a subauricular broad hook-apex to the opening (figs 14-16) but in some, as shown in figs 14-15, the curvature is low and the posterior indentation relatively slight. In others (fig 16) the breadth of the auricular portion is very broad, the hook deep, and the inner anterior angle very sharp. While it is possible to group these variants into two or three complexes, it does not seem possible to evaluate the significance of the variations with

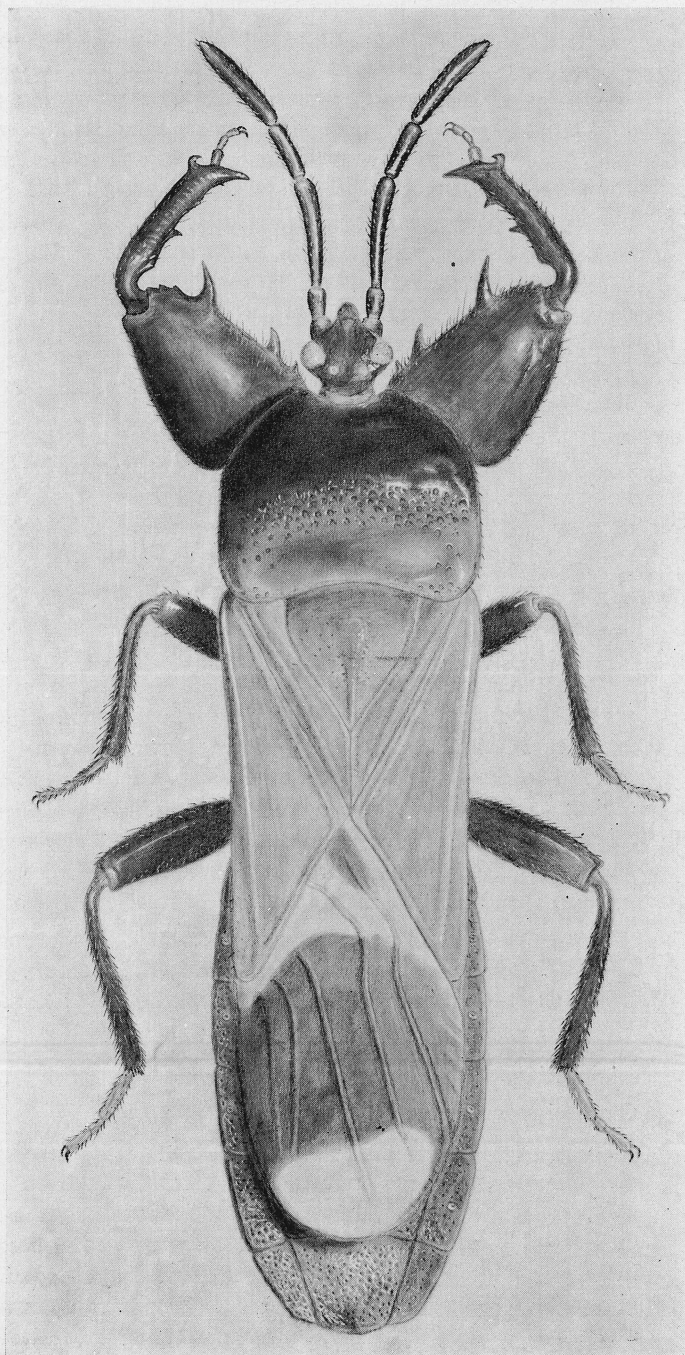


Fig. .1 *Chelochirus talpus* (Walker), dorsal view.

the very short series available for study. In this paper we merely indicate the condition we find without attempting to ascertain the significance of the variability. Of perhaps greater importance is the variation found in the claspers. As noted above, in this genus, the claspers are very simple lobate structures. However, as can be seen from figures 3, 4 and 5, there is a reasonable amount of variation, from a very simple lobed clasper to one which has a pronounced "bump" or extrusion present upon its surface. Unfortunately for analysis of the problem these clasper and orifice variations do not conform to the geographic picture, for we find both variations on Sumatra and Java. Therefore, while these could conceivably represent different species, they certainly do not represent different subspecies as evidenced from the available material. The sperm reservoir likewise indicates some degree of difference in the lateral wings. However, this is an extremely difficult area to interpret when one tries to utilize it for fine differences and here again it appears to be primarily a case of individual variation. There is a single large male from Java collected by Fruhstorfer in the Stockholm Museum bearing a manuscript name of Bergroth and a red type label which may well represent a distinct species. This individual is considerably larger than any other specimens we have examined and has a black scutellum, whereas all other specimens have the lateral areas of the scutellum pale testaceous or brown. The pronotum is also almost completely black. Most other specimens have the pronotum with the anterior lobe dark, nearly black, and the posterior lobe dark brown to red-brown. However, there is considerable variation in this character as in most of the others, and its reliability must await a better series.

In addition, the relationship of *talpus* to *atrox* should be further analyzed when more material becomes available. Although the two species appear to be distinct there are several peculiar situations which need clarification. For example both species have been taken in Perak, Malaya, the *talpus* specimen possessing a labial length somewhat longer than average, whereas one of the *atrox* specimens has a somewhat shorter labium. Furthermore, while *atrox* was described from Java, we have seen only *talpus* specimens from there. Since these two species are the most closely related to each other of any in the genus, and what we consider to be *talpus* is extremely variable, it seems obvious that much remains to be learned of the systematic relationships of the complex.

MATERIAL EXAMINED: 10 specimens. JAVA: Soekaboemi, E. le Moutt; no locality, Fruhstfr.; Guaung Slam, 800 m, V.1933, E. Jacobson. SUMATRA: no locality, Mjoberg, Doherty; Perdagangan, Mjoberg; Medan, Breddin; Bandar Baroe, Mjoberg. In Stockholm Museum, British Museum (Nat. Hist.), Leiden Museum, Deutsches Entomologisches Institut, G. G. E. Scudder and J. A. Slater collections.

**Chelochirus confertus** Slater and Ahmad, n. sp.

Head, pronotum, scutellum and antennal segments black to dark chocolate-brown becoming pale brown on tylus and basal 1/3 of antennal segment I; pronotum pale, translucent, testaceous yellow on humeral angles; hemelytra strongly variegated, clavus yellow on inner 1/2 with outer 1/2 dark brown, becoming broadened from base to apex; corium in large part yellow with a very broad chocolate-brown stripe along radial vein area beginning 1/4 distance from base and expanded to apex of corium, this dark stripe leaving a narrow lateral yellow band along corial margin, apical margin of corium narrowly dark brown, extending toward base as a straight narrow stripe slightly laterad of claval suture, becoming evanescent toward base, coloration of corium very similar to condition found

in *Riggiella distinctus*; membrane pale brown, the veins conspicuously darker distad of a broad transverse lunate yellow vitta running across membrane in area adjacent to apex of corium; a small ovoid yellow spot in center of distal portion of membrane; legs pale yellow, fore femur and tibia becoming more conspicuously ochraceous; labium pale; scent gland orifice and most of venter black to dark reddish brown; lateral connexival area of abdominal sternum contrastingly pale yellow; head, pronotum, appendages and median carina of scutellum shining, nearly glabrous.

Head typical for genus, dorsal surface slightly swollen, eyes set very near anterolateral angles of pronotum, tylus reaching to distal 1/3 of antennal segment I, length head 1.18 mm, width head 1.14 mm, interocular space .68 mm; pronotum rather sharply angled along lateral margin at anterior 1/3, transverse impression broad, punctate, the punctures becoming diffuse on posterior lobe, the lateral margins caudad of angulation to anterior margin nearly straight, posterior margin shallowly concave, length pronotum 1.75 mm, width pronotum 2.69 mm; scutellum with a prominent shining median carina on distal 1/2, becoming broadened basad, lateral areas punctate, dull, length scutellum 1.41 mm, width scutellum 1.48 mm; corium with lateral margins slightly concave, membrane extending onto last abdominal tergum, distance apex clavus—apex corium 2.31 mm, distance apex corium—apex membrane 3.08 mm; antennae relatively elongate, segment I thick and stout, length antennal segments I .42 mm, II 1.44 mm, III .61 mm, IV 1.35 mm; metathoracic scent gland orifice slender, knob-like, with only a slight indentation on posterior margin, not at all giving appearance of a hooked opening (fig 12); labium elongate, extending well beyond mesocoxa and nearly reaching anterior margin of metacoxa, length labial segments I .91 mm, II 1.18 mm, III 1.60 mm, IV 1.10 mm; fore femur with a large central spine on distal 1/3, bifid at apex, with 2-3 small hooked spines proximad, inner face of venter of fore femur near distal end with a large, expanded, serrate flange, fore tibia with terminal teeth and a series of small, sharp, short teeth along almost entire inner surface; total length 11.20 mm; spermatheca smaller than in *C. talpus* but larger than *C. atrox*, with a broad bulb and a narrow elongated stem (fig 23).

Holotype ♀ (Leiden Mus.), Gun Teeman, Sumatra, 1917, E. E. W. Jacobson. 2 paratypes: Sumatra: Sungai Kumbang; Pick v. Kurintji (E. Jacobson). In Leiden Museum and J. A. Slater collections.

This is a very distinctive species within the genus *Chelochirus*. Not only is the coloration completely different from that found in the other species but the peculiar expanded serrate margin to the apex of the fore femur is unique. The labium is intermediate in length, between that found in *talpus* and *atrox*. One of the paratype specimens differs from the holotype and the other paratype in showing an increased degree of melanism. This is evidenced in the clavus which is almost completely black on the inner fourth, and by the pale membranal markings being much suffused with dark, and having the fore femur dark chocolate-brown in striking contrast to the pale mid and hind legs.

***Chelochirus pirkimeroides* Slater and Ahmad, n. sp.      Fig. 2.**

Body elongate, slender, nearly parallel-sided; head, anterior lobe of pronotum and antenna black, shining; tylus, extreme anterior pronotal margin, entire posterior pronotal lobe and legs dark red-brown; scutellum gray velvety at base, becoming bright ochraceous on posterior 3/4; clavus and basal 2/3 of corium bright yellow ochraceous, terminal 1/3 of



corium becoming dark gray-brown, concolorous with membrane, the latter completely gray-brown with exception of broad transverse yellow vitta completely across membrane located midway along apical corial margin, a 2nd large circular yellow spot in center of posterior 1/3 of membrane; abdomen uniformly dark red-brown; head and pronotum uniformly shining; scutellum with shining median carina which broadens vase-like anteriorly and contrasts markedly with dull velvety lateral and basal areas; clavus and corium uniformly dull with exception of shining radial vein almost to apical corial margin and a narrow shining lateral marginal flange; the head smooth across vertex becoming rugulose on juga and at base of antenniferous tubercles; area of calli smooth, posterior lobe possessing irregularly placed prominent punctures; scutellum coarsely and deeply punctate laterad of median carina; pronotum sparsely clothed medianly and heavily clothed laterally with very elongate upstanding yellow hairs.

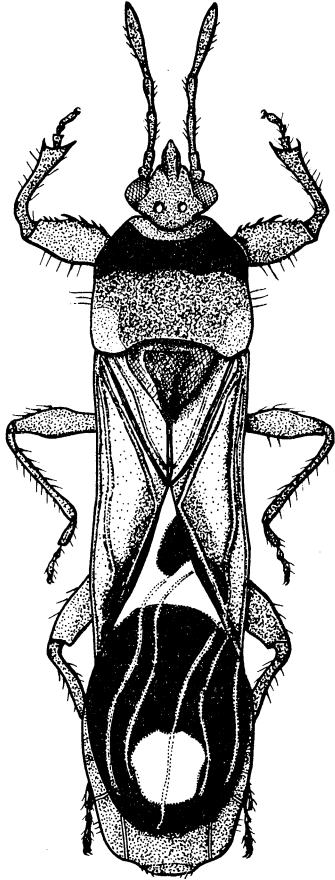
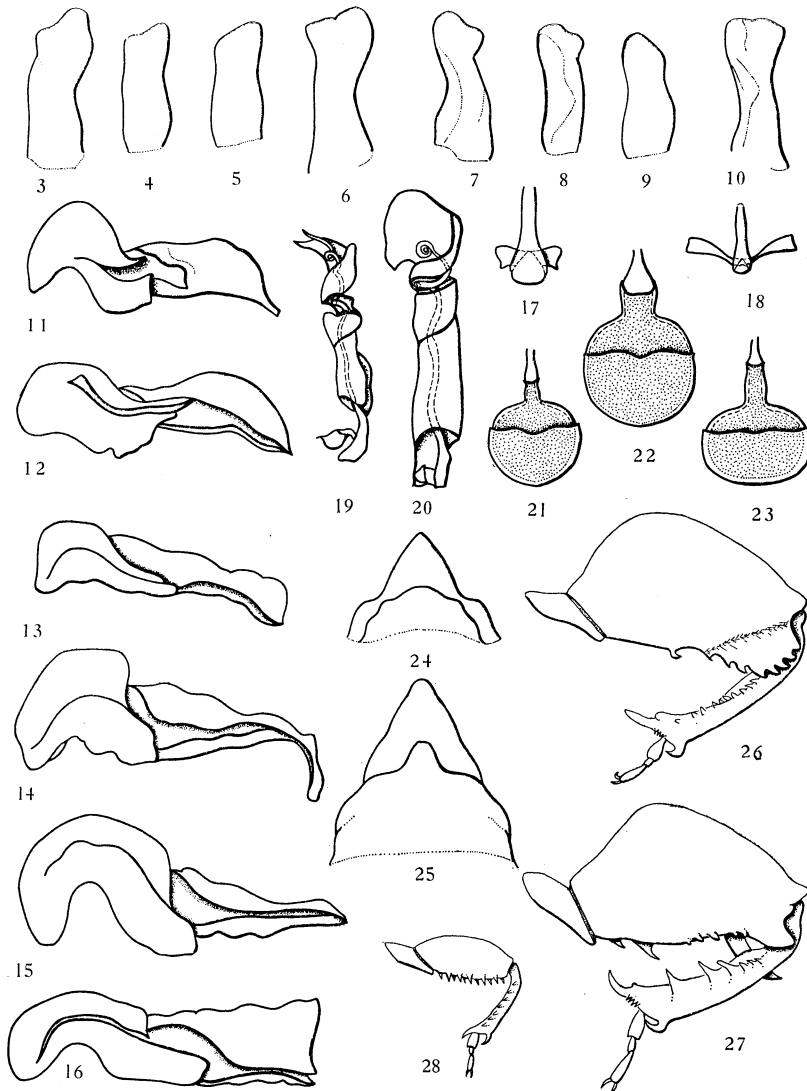


Fig. 2. *Chelochirus pirkimeroides* n. sp., dorsal view.

Head strongly convex across vertex, eyes not strongly produced, large, set away from anterolateral pronotal margins, tylus extending well forward of apices of juga, reaching midway to distal end of antennal segment I<sup>3</sup>, antenniferous tubercles truncate, not produced laterad, ocelli extremely large, length head .76 mm, width head .85 mm, interocular space .46 mm; pronotum only moderately convex dorsad, the anterolateral margin not strongly broadened but lateral margins evenly rounded from humeral angles to anterior margin, posterior margin deeply concave, a pair of shallow fovea at anterior end of each callus and a deep foveate impression near lateral margins midway from anterior to posterior end, transverse impression absent mesally, pronotal shape relatively slender, not strongly broadened and flattened as in all other species of *Chelochirus*, length pronotum 1.22 mm, width pronotum 1.59 mm, scutellum elongate, median carina low but distinct; length scutellum .80 mm, width scutellum .76 mm; hemelytra with lateral corial margins nearly straight, slightly expanded opposite apex of claval commissure, membrane extending midway onto ultimate abdominal tergum, covering or nearly covering abdominal connexivum laterally, clavus, corium and membrane of similar texture throughout, distance apex clavus—apex corium 1.52 mm, distance apex corium—apex abdomen 2.60 mm; length hind tibia 1.56 mm; metathoracic scent gland orifice strongly curved anteriorly and then rehooked to form a question-mark-shaped structure (fig 11); mesosternum with a prominent deep median groove, labium extending well onto mesosternum, segment III slightly exceeding posterior margin of prosternum, apex of labium not quite reaching coxae, length

3. Figure 2 is incorrect in this characteristic.



Figs. 3-6. Claspers, outer view: 3, *C. talpus* (with Bergroth's "type" label, Stockholm Mus.); 4, *C. talpus* (Perda Gangan, J. A. Slater coll.); 5, *C. talpus* (Sumatra, J. A. Slater coll.); 6, *C. pirkimeroides*. Figs. 7-10. Claspers, inner view: 7, *C. talpus* (with Bergroth's "type" label); 8, *C. talpus* (Perda Gangan); 9, *C. talpus* (Sumatra); 10, *C. pirkimeroides*. Figs. 11-16. Scent gland orifice: 11, *C. pirkimeroides*; 12, *C. confertus*; 13, *C. atrox*; 14, *C. talpus* ( $\delta$ , with Bergroth's "type" label); 15, *C. talpus* ( $\delta$ , Perda Gangan, no. 5, J. A. Slater coll.); 16, *C. talpus* ( $\delta$ , Sumatra). Figs. 17-18. Sperm reservoir, dorsal view: 17, *C. talpus* (Perda Gangan); 18, *C. pirkimeroides*. Figs. 19-20. Vesicae with sperm reservoirs, lateral view: 19, *C. talpus* (Perda Gangan); 20, *C. pirkimeroides*. Figs. 21-23. Spermathecae: 21, *C. atrox*; 22, *C. talpus* (Java); 23, *C. confertus*. Figs. 24-25. Aedeagal struts, dorsal view: 24, *C. talpus* (Perda Gangan); 25, *C. pirkimeroides*. Figs. 26-28. Fore legs, outer view: 26, *C. confertus*; 27, *C. talpus*; 28, *C. pirkimeroides*. (Figures 6, 10, 11, 20 and 25 are drawn to a larger scale.)

labial segments I .53 mm, II .61 mm, III .53 mm, IV .42 mm; fore femur only moderately incrassate, much less so than other members of genus, armed with 2 distinct rows of sharp acute spines on ventral surface, the anterior row consisting of 3 small distal spines and 2 larger spines on distal 1/3 to center, the posterior series more numerous, consisting of 8 to 10 spines and running to near base of femur, mid and hind femora mutic, fore tibia strongly expanded at apex into a pair of sharp curved hook-like spurs, inferior face possessing a complete series of short stubby evenly spaced spines; antennae large, heavy, segments II and III clavate near apex, segment IV moderately fusiform, length antennal segments I .30 mm, II .59 mm, III .42 mm, IV .80 mm; total length 7.68 mm; claspers elongate with a very conspicuous pointed lobe (fig 6); sperm reservoir with narrow stem and narrow strip-like wings (fig 18); vesica with anterior end rounded, ejaculatory duct not lying free of vesica (fig 20).

Holotype ♂ (BISHOP 4183), Tenempok, Sabah, Borneo, Malaysia, 15.II.1959, T. C. Maa.

This species is in many ways the most remarkable member of the genus *Chelochirus* and is much more dissimilar from any of the other species than these are from one another. In fact, at first observation this species does not really have the habitus of *Chelochirus* but more the habitus of an *Ischnodemus* or a *Pirkimerus*. The pronotum is not broadly expanded with a strongly curved arc to the lateral margins, the fore femur is only moderately incrassate, not enormously swollen to be, in some cases, almost the size of the anterior portion of the body, and the spines on the fore femur are relatively small and acute, as in many species of *Macropes*, rather than consisting of 2 or 3 enormously developed spurs on the distal portion of the segment. Nevertheless in all essential features this species does seem to belong to *Chelochirus*. The head, definitive features of the pronotum, scutellum, shining claval vein on the corium, color markings on the membrane, enormous hooked apical spurs on the tibiae, very large ocelli, grooved mesosternum and general antennal shape all indicate a member of the same genus as the large broad species which comprise all of the others. In addition to these external features the genitalia further indicate that this is indeed a *Chelochirus*: claspers "chelochirus-like," short, blunt, lobed, with no indication of the normal blissine lanceolate condition (figs 6, 10). The sperm reservoir of the phallus consists of a simple elongate median sclerotized shaft with a pair of distally expanded wings (fig 18) and thus is similar to other species of *Chelochirus*.

It is tempting to speculate that this species represents a rather generalized member of the genus, as is evidenced by the much more conventional fore femur and general body shape. The somewhat smaller strongly hooked condition of the metathoracic scent gland orifice, together with the body configuration, could lead one to the conclusion that it is through this form that the genus *Chelochirus* may have been derived from "pirkimerus-like" ancestors.

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